ANGOSTURA UNIT

Contract Negotiation and Water Management

Final Environmental Impact Statement

Bureau of Reclamation
Dakotas Area
Bismarck, ND, Area Office
Rapid City, SD, Field Office

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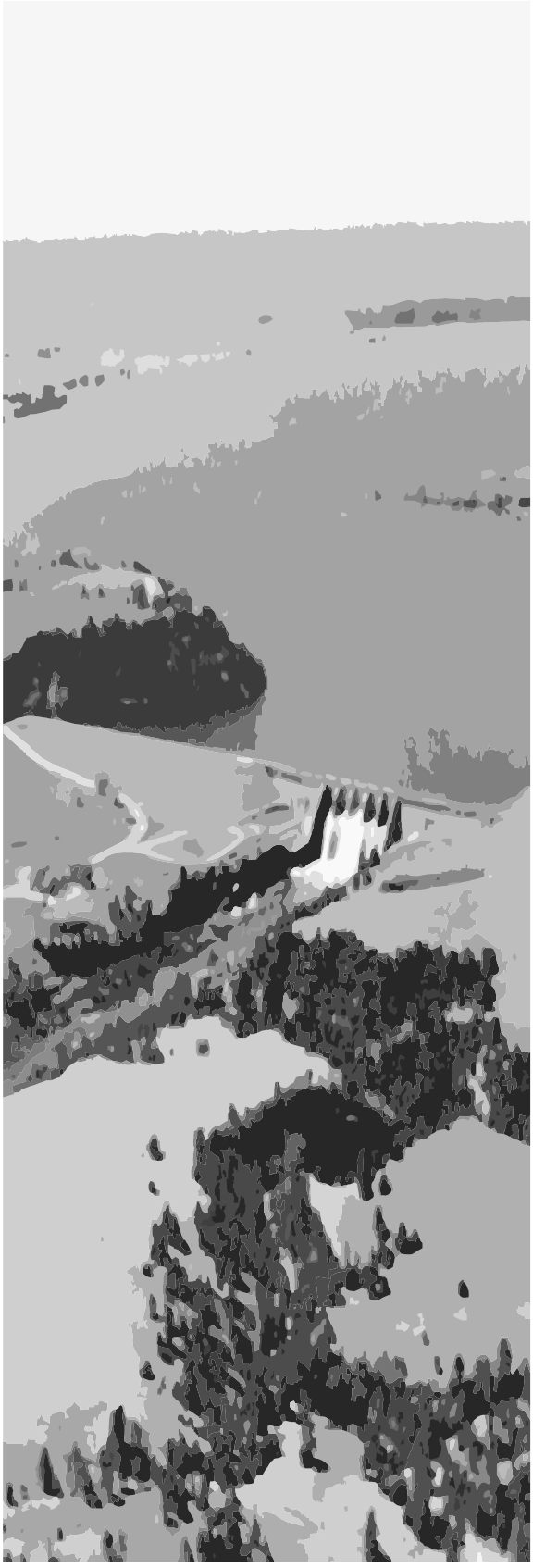
Abbreviations/Terms in This EIS

AF	(Acre-feet) Volume of water required to cover 1 acre to a depth of 1 foot; equivalent to 43,560 cubic feet or about 326,000 gallons.
AGRAOP	AGRAOP is a personal computer program that operates the River Operations Modeling System by attempting to meet system demands from runoff and stored water in Angostura Reservoir.
BIA	U.S. Bureau of Indian Affairs.
BMP	Best management practices.
bp	Before present (time).
CIR	(Consumptive Irrigation Requirement) Net volume of water needed for crop production minus effective growing season precipitation.
Consumptive Use	Volume of water used by plants through transpiration and evaporation for a given area during a specific period. This EIS expresses consumptive use in AF/acre. Also called ***evapotranspiration*** (ET).
CRST	Cheyenne River Sioux Tribe.
cfs	(Cubic feet/second) Volume of water represented by a flow of 1 cubic foot per second for 24 hours; equivalent to 86,400 cubic feet, about 1.9835 AF.
DISSED	The DISSED computer program was developed to distribute sediment in large reservoirs by the Empirical Area Reduction method. It follows procedures outlined in Reclamation's ***Reservoir Sedimentation Technical Guidelines*** (1982) and detailed in the ***Revision of the Procedure to Compute Sediment Distribution in Large Reservoirs*** (1962).
DO	The volume of oxygen found dissolved in water, usually expressed in mg/L.
EC	(Electrical conductivity) A measurement of the capacity of water to conduct electricity, proportional to TDS concentrations, usually expressed as µmho/cm.
End-of-Month Content	Volume of water in storage in a reservoir on the last day of the month. (Daily storage is usually available from USGS or HYDROMET records.)
EXTOXNET	Extension Toxicology Network.
FISRWG	Federal Interagency Stream Restoration Working Group.
HYDROMET	Reclamation's hydrologic, reservoir, and meteorologic database for acquiring, processing, storing, and retrieving current, daily, and yearly data. Information from remote sites is transmitted via satellite to ground stations where it is recovered and processed by computer.
IMPLAN	A computer model that converts changes in final demand for goods and services into changes in the value of total economic output of a region, changes in employment, and changes in income.
ITA	Indian Trust Asset.
LBST	Lower Brule Sioux Tribe.
MCL	Maximum contaminant level of a constituent allowed by human health or aquatic life standards.
µG/L	Micrograms/liter, equivalent to parts-per-billion.
µmho/cm	Micro-mho/centimeter, a measurement of the electrical conductivity of water.
mg/L	Milligrams/liter, equivalent to parts-per-million found in a liquid.
mg/kg	Milligrams/kilogram, used to express parts-per-million found in a solid.
MOA	Memorandum of Agreement.
NES	National Eutrophication Survey.
NIWQP	National Irrigation Water Quality Program.
NRHP	National Register of Historic Places.
O&M	Operations and maintenance.
OST	Oglala Sioux Tribe.
P-SMBP	Pick Sloan Missouri Basin Project.
Reclamation	U.S. Bureau of Reclamation.
Return Flows	Volume of water returning to a river, stream, or reservoir as a result of a withdrawal from the system (withdrawal minus depletion).
Riparian	Habitat found next to a body of water.
SARC	South Dakota Archeological Research Center.
SMCL	Secondary maximum contaminant level (see ***MCL***).
SDDENR	South Dakota Department of Environment and Natural Resources.
SDGF&P	South Dakota Game, Fish and Parks Department.
SHPO	South Dakota State Historic Preservation Office.
SI-RBS	Smithsonian Institution—River Basin Survey.
TCP	Traditional cultural properties.
TDS	Total dissolved solids, a measurement of water quality.
USFWS	U.S. Fish and Wildlife Service.
USFS	U.S. Forest Service.
USGS	U.S. Geological Survey.



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This EIS (environmental impact statement) analyzes impacts of a new long-term water service contract with the Angostura Irrigation District and impacts of water management at the U.S. Bureau of Reclamation's Angostura Unit in southwestern South Dakota. The EIS was prepared in compliance with NEPA (National Environmental Policy Act). Four alternatives were analyzed: The **No Action Alternative** would continue to provide water to irrigate up to 12,218 acres in the District and would not change water management at Angostura Reservoir; the **Reestablishment of Natural Flows Below the Dam Alternative** would eliminate irrigation to reestablish (as nearly as possible) flows in the Cheyenne River below the reservoir; the **Improved Efficiencies Alternative (the Preferred Alternative)** would increase efficiency of the District's distribution system and efficiency of on-farm irrigation to save up to 9,000 AF (acre-feet) of water/year for other purposes, while irrigating up to 12,218 acres; and the **Reservoir Recreation and Fisheries Alternative** would provide water to improve recreation and the reservoir fishery while irrigating up to 12,218 acres. Environmental factors analyzed for each alternative were surface water quantity; surface water quality; groundwater; sediment; the stream corridor; wetlands; fisheries; wildlife; threatened or endangered species; social and economic conditions; Indian Trust Assets; environmental justice; cultural resources; and paleontological resources.

Questions on the EIS should be directed to:

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ABSTRACT